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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,434	07/24/2001	Donald Nelson	VTI015A	5963

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EXAMINER	
HARRISON, CHANTE E	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/912,434	NELSON ET AL.	
	Examiner	Art Unit	
	Chante Harrison	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 September 2004*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-13 and 15-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-13 and 15-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Amendment and RCE filed on 9/23/04.

2. Claims 1-5, 7-13 and 15-19 are pending in the case. Claims 1, 9 and 13 are independent claims and have been amended.

Information Disclosure Statement

1. The information disclosure statement filed 9/23/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the foreign patents and publication referred to therein has not been considered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 7-11, 12-13, 15-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christopher Tarr et al., US 6,084,587, 7/2000.

As per independent claim 1, Tarr discloses sensing a manipulation of an articulatable object configured to be coupled to a host computer system that includes a graphical environment (col. 4, ll. 40-50); updating at least one of a displayed orientation and a displayed shape of a graphical image in the graphical environment in relation to the sensed manipulation (col. 17, ll. 39-44); and changing a relationship between the sensed manipulation and the at least one of the displayed orientation and the displayed shape of the graphical mage based on a simulated interaction of the graphical image with a graphical object (col. 9, ll. 33-45; col. 8, ll. 4-6; col. 22,ll. 45-50).

Tarr fails to specifically disclose updating data values associated with the graphical image.

Tarr teaches a hierarchical representation of sub-constructs, such as fingers, having a plurality of constructs, which include attributes and parameters defining the

geometric representation/shape and the orientation of the representation (col. 5-6, ll. 45-2). Tarr teaches the geometric representations of the sub-constructs, such as fingers, may be defined as a primitive, polygon or algebraic object (col. 6, ll. 1-3). Tarr teaches updating the position of the manipulated sub-constructs in the haptic interface space, which is a representation of the graphical environment (col. 4, ll. 42-44; col. 5, ll. 31-35; col. 8, ll. 3-6).

It would have been obvious to one of skill in the art to incorporate updating data values associated with the graphical image in relation to the sensed manipulation with the disclosure of Tarr because the defining of geometric representations mathematically as primitives, etc., results in the geometric representations having associated data values representing characteristics of the displayed image. Therefore, by manipulating the image the characteristics of the image change, which results in the update of the data values associated with the image position, etc.

As per dependent claim 2, Tarr discloses updating one of the displayed orientation and the displayed shape of the graphical image (col. 17, ll. 39-44), but fails to specifically disclose calculating the change in the display of the graphical image.

Tarr teaches a hierarchical representation of sub-constructs, such as fingers, having a plurality of constructs, which include attributes and parameters defining the geometric representation/shape and the orientation of the representation (col. 5-6, ll. 45-2). Tarr teaches the geometric representations of the sub-constructs, such as fingers, may be defined as a primitive, polygon or algebraic object (col. 6, ll. 1-3). Tarr teaches

updating the position of the manipulated sub-constructs in the haptic interface space, which is a representation of the graphical environment (col. 4, ll. 42-44; col. 5, ll. 31-35; col. 8, ll. 3-6).

It would have been obvious to one of skill in the art to incorporate calculating the updated display of the image with the disclosure of Tarr because the defining of geometric representations mathematically as primitives, etc., results in the geometric representations having associated data values representing characteristics of the displayed image. Therefore, by manipulating the image the characteristics of the image change, which results in the update or calculation of the data values associated with the image position, etc.

As per dependent claims 3 and 15, Tarr fails to specifically disclose using constraints to calculate the at least one of the displayed orientation and the displayed shape of the graphical image.

Tarr teaches a hierarchical representation of sub-constructs, such as fingers, having a plurality of constructs, which include attributes and parameters, e.g. constraints, defining the geometric representation/shape and the orientation of the representation (col. 5-6, ll. 45-2). Tarr teaches updating the position of the manipulated sub-constructs in the haptic interface space, which is a representation of the graphical environment (col. 4, ll. 42-44; col. 5, ll. 31-35; col. 8, ll. 3-6).

It would have been obvious to one of skill in the art to incorporate using constraints to calculate one of the displayed orientation and the displayed shape of the

graphical image with the disclosure of Tarr because the image position and orientation is defined by geometric representations including parameters, e.g. constraints, such that the manipulation of the image requires use of the characteristics defining the image to determine the modified position and orientation of the image.

As per dependent claims 4 and 16, Tarr fails to specifically disclose using numerical methods to calculate the at least one of the displayed orientation and the displayed shape of the graphical image.

Tarr teaches a hierarchical representation of sub-constructs, such as fingers, having a plurality of constructs, which include attributes and parameters defining the geometric representation/shape and the orientation of the representation (col. 5-6, ll. 45-2). Tarr teaches the geometric representations of the sub-constructs, such as fingers, may be defined as a primitive, polygon or algebraic object (col. 6, ll. 1-3). Tarr teaches updating the position of the manipulated sub-constructs in the haptic interface space, which is a representation of the graphical environment (col. 4, ll. 42-44; col. 5, ll. 31-35; col. 8, ll. 3-6).

It would have been obvious to one of skill in the art to incorporate using numerical methods to calculate the updated display of the image with the disclosure of Tarr because the defining of geometric representations mathematically as primitives, etc., results in the geometric representations having associated data values representing characteristics of the displayed image. Therefore, by manipulating the image the characteristics of the image change, which results in the update or calculation

of the data values associated with the image position, etc. The calculation of data values that are mathematically defined suggests the use of numerical methods to determine the modified data values.

As per dependent claims 7, 11 and 18, Tarr discloses the object is configured to provide haptic feedback (abstract).

As per dependent claims 8, 12, 19, Tarr discloses the haptic feedback is associated with a simulated interaction of the graphical image and the graphical object (abstract).

As per independent claim 9, the rationale as applied in the rejection of claim 1 applies herein.

As per independent claim 13, the rationale as applied in the rejections of claims 1 and 2 applies herein.

1. Claims 5, 10 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

1. Applicant's arguments, see pp. 7, Para 1, filed 9/23/04, with respect to the rejection(s)of claim(s) 1, 9 and 13 under 35 U.S.C 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Christopher Tarr et al., US 6,084,587, 7/2000.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chante Harrison whose telephone number is 703-305-3937. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chante Harrison
Examiner
Art Unit 2672

Ceh
December 9, 2004

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600